

Montana Department of Agriculture
Cooperative Agricultural Pest Survey Program
2005

Dalmatian Toadflax Biocontrol Agent
***Mecinus janthinus* Germar**

Submitted by David Weaver and Sharlene Sing, Montana State University

The stem mining weevil, *Mecinus janthinus* Germar (Meja) continues to be released on Dalmatian and yellow toadflax in Montana. In 2005, we collected data on a series of releases that were made on Dalmatian and yellow toadflax in 2004. The information for these releases was obtained from required APHIS reporting documents that are returned to the office of the State Plant Health Director after a release is made. The data collection was assisted ably by Cale Davis and Terra Scheer, as well as by an APHIS summer staff member who participated through the kind cooperation of Glenn Harruff of the Billings USDA, APHIS PPQ office. Much additional input on individual release locations was provided by County Weed Coordinators, or in some cases, other individuals who made the releases.

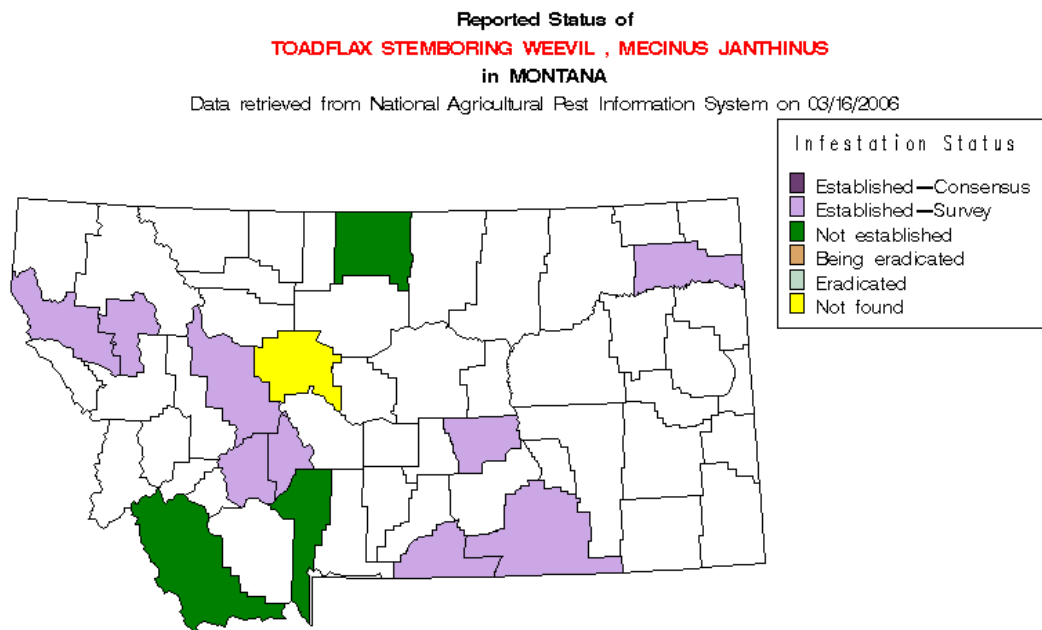
Monitoring was conducted in all counties known to have received Meja in 2004. Counties where transects were established included Beaverhead, Broadwater, Lewis and Clark, Musselshell, Jefferson, Roosevelt, Hill, Gallatin, Sanders, Lake, Carbon, Cascade, and Big Horn. Transects were established when evidence of Meja injury would be evident, starting on 27 and running through 16 August. Evidence of Meja establishment was found in all counties except Beaverhead, Hill, Gallatin, and Cascade. In the case of a number of the unsuccessful releases, it is a function of the candidate agent being released on yellow toadflax, on which we have seen no evidence of success over a number of years now. Other unsuccessful locations occurred as a result of unsuccessful relocation of the release site by the person making the initial release. Finally a few release sites were subsequently subjected to other means of weed elimination, effectively killing Meja.

In order to determine whether Meja established from releases made in 2004, we made traditional 20 meter monitoring transects at each location and collected detailed data on Meja and the plant community. We also collected additional sets of toadflax stems from the area surrounding the monitoring transect, and dissected these to determine if Meja had established and survived the winter. The data was all recorded in MicroSoft Excel spreadsheets that were considerably more extensive than required for reporting in the standard CAPS format. The transects we established were designed to be permanent, and can be used for reference for future monitoring to ultimately provide data on when the biocontrol populations have become large enough for redistribution (that is - to serve as insectaries).

To convert this extensive data to CAPS format worksheet, we determined whether live adults were present within the monitoring quadrat or whether there was evidence of successful adult emergence from dead stems that were collected within the quadrat frame (quadrats were

collected at 2 meter intervals along the transects as indicated in the worksheet). This data is the most conservative, because there were a higher percentage of sites that appeared to have damage that was likely caused by *Mecinus* larval feeding within the stems or by adult perforation of the leaves. However, this is not absolute, and could possibly come from another source (grasshopper or plant bug feeding). By using the data as we have when we indicate a site is positive, there is no doubt about the fact that adults were present the following year. Additional data on positive establishment was obtained from sets of stems collected near the release sites, as well, and subjected to the same rigorous criteria.

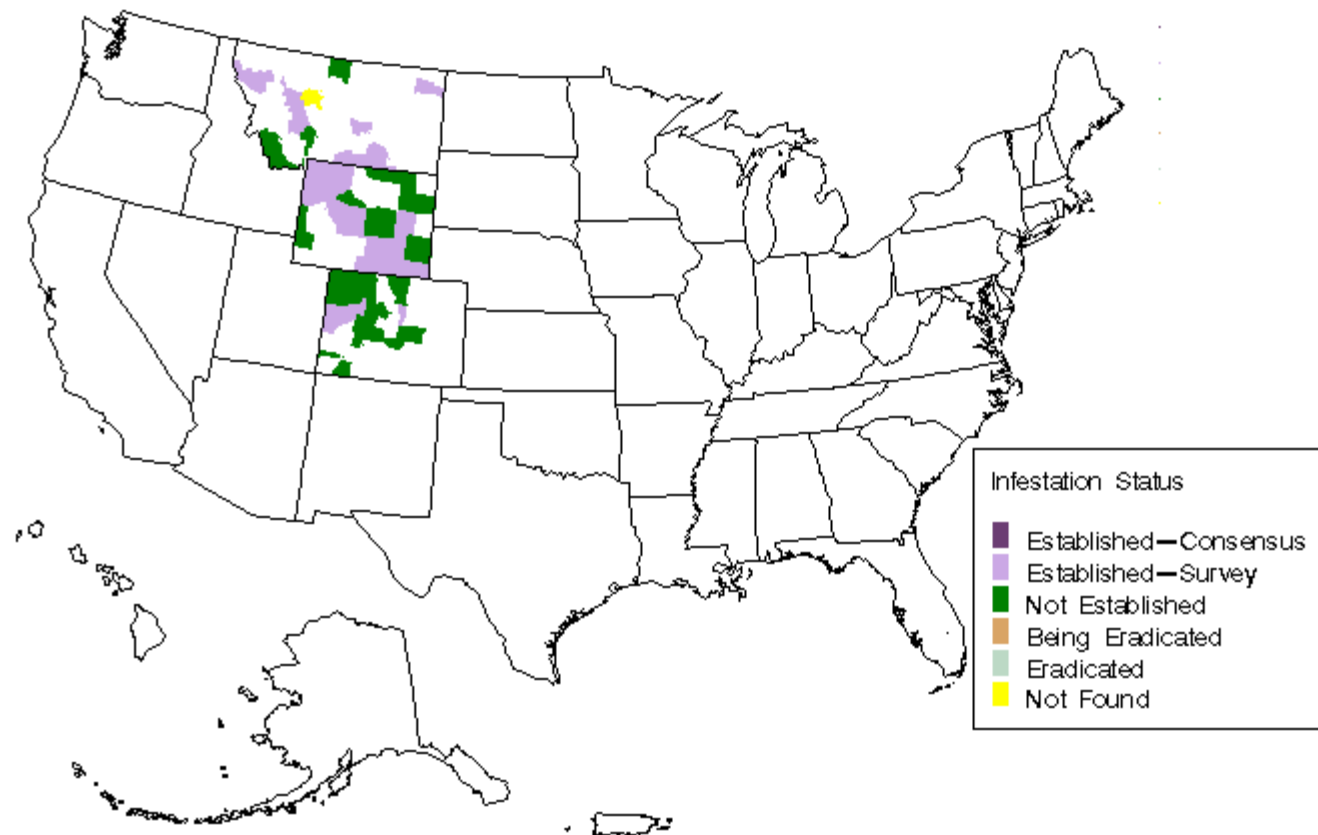
Overall, twenty releases made in 2004 show potential to serve as future insectaries, if the sites are not subjected to remediation using herbicides or other means of weed control that may compromise the survival of *Meja*. It is recommended that these same sites be surveyed again in 2007 to determine if they can be collected for redistribution, starting in 2008. These sites, along with a number of others established by early research, should provide for an ample supply of *Meja* for managing Dalmatian toadflax in Montana in the coming years. The sites that failed did so predominantly as a result of human error, and may not be a very good indicator of the potential efficacy of this species as a weed control agent.



The Center for Environmental and Regulatory Information Systems does not certify the accuracy or completeness of the map.
Negative data spans over last 3 years only.

**Reported Status of
TOADFLAX STEMBORING WEEVIL , MECINUS JANTHINUS
in US and Puerto Rico**

Data retrieved from National Agricultural Pest Information System on 03/16/2006



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Gypsy moth, *Lymantria dispar*

Region 1: Idaho, Montana, North Dakota, Wyoming

Submitted by: Leah Chapman, USDA Forest Service

Cooperative detection monitoring continued for the gypsy moth in Region 1 with APHIS, and State Departments of Agriculture, Forestry, and Lands in 2005. A network of strategically located pheromone-baited traps was placed throughout all Region 1 states. Two moths were captured on Federal land in Yellowstone National Park. The first was trapped at Fishing Bridge RV Park, which is the same trap site where one moth was captured each year from 2001 to 2003. A second moth was trapped at Madison Campground, also in Yellowstone NP. Delimitation surveys near the Fishing Bridge RV Park were still in place as a result of the 2003 catch.

A single European gypsy moth was trapped on private land near Enaville in the Idaho panhandle. Delimitation surveys will be instituted for the area surrounding this trap catch, and will be continued for last year's Asian gypsy moth catch near Hauser, ID. There have been no new AGM catches following the suppression project where 600 acres were sprayed with Btk4a48b. No moths were caught in Montana or North Dakota in 2005.

Aside from the new delimiting grid in the Idaho panhandle, the trapping program will continue as usual in Region 1 next year.

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Silver Y Moth Detection and Delimitation Survey Report

Submitted by Will Lanier, Montana State University

The Silver Y Moth (*Autographa gamma*) is an emerging pest (Ranked 2 on the Western Region Pest List) of various crops including both potatoes, broadleaf and cereal grains. The Silver Y Moth (SYM) detection and delimitation survey was designed to determine if SYM, is found in Montana. If SYM was found, the trapping program would give some indication of the extent of the infestation.

A network of pheromone trapping sites (@40) managed by individual site cooperators (4-H, Extension agents and producers) for detection of a number of native cutworm moths already operates in Montana. The proposed survey added 40 PheroTech Uni traps baited with pheromone specific for Silver Y moth, *Autographa gamma*, to the current network. Sampling was conducted in Beaverhead, Big Horn, Blaine, Cascade, Chouteau, Custer, Powder River, Daniels, Dawson, Fallon-Carter, Flathead, Gallatin, Glacier, Hill, Judith Basin, Liberty, Phillips, Pondera, Prairie, Richland, Roosevelt, Sweet Grass, Teton, Toole, Yellowstone and Carbon counties.

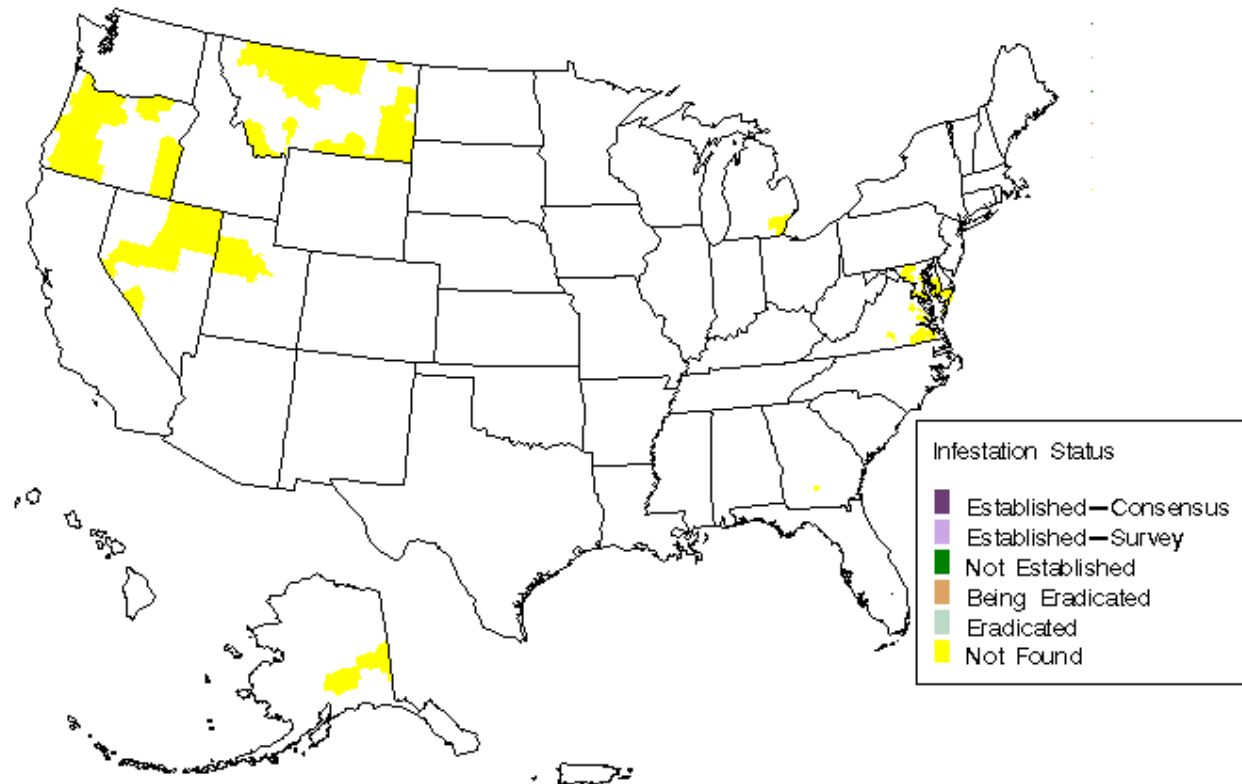
Each week for 8 weeks beginning approximately Aug 1st. cooperators install and begin monitoring the number of moths caught in pheromone traps. Each week the catches are recorded and data is submitted to allow the Cutworm Risk warning for that area to be estimated. During the cutworm trapping process the contents of the SYM traps were be bagged and refrigerated until they were mailed/delivered to the MSU Schutter Diagnostic lab.

Trap examination and identification of suspect moths were done in a tiered system, with the insect diagnosticians at Montana State University (Bozeman) first examining the specimens following a dissection protocol developed by Richard Worth, Lepidopterist & Insect Program Specialist at the Oregon Dept. of Agriculture, Plant Division, conferring with MDA State Entomologist and if necessary confirming identifications with USDA specialists.

No SYM were collected in 2005. The majority of our specimens were Alfalfa looper (*A. californica*) with a few unknowns that were not *A. gamma*.

Reported Status of
SILVER-Y MOTH , AUTOGRAPHA GAMMA
in US and Puerto Rico

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Urban Spurge Survey Report

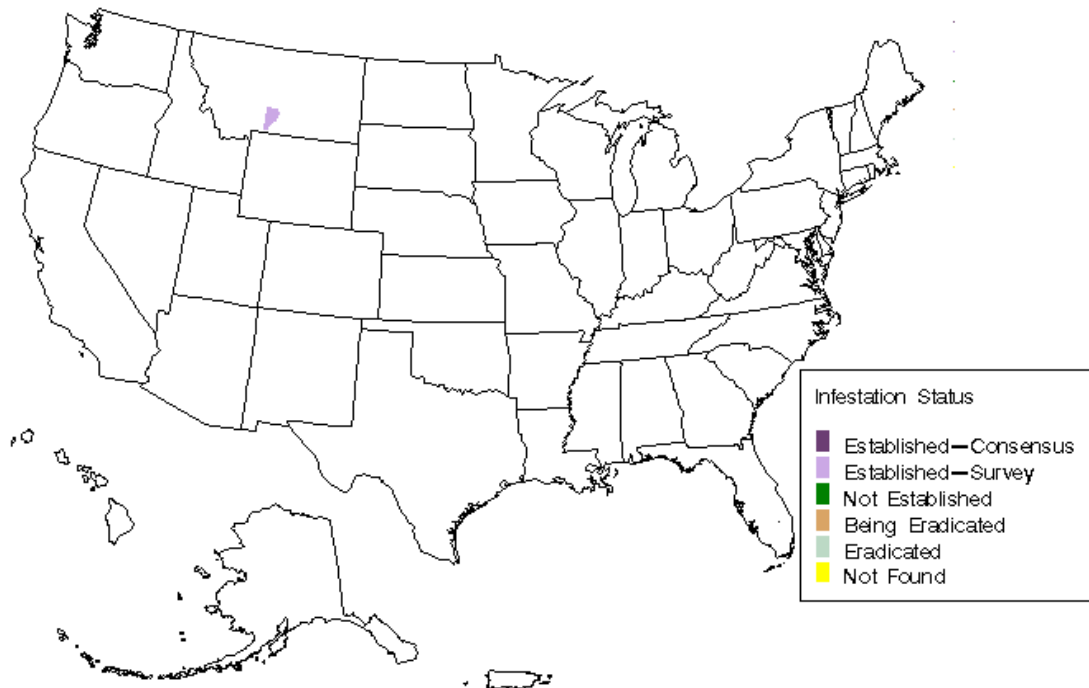
Submitted by: Stacey Barta, Sweet Grass County

Sweet Grass County began surveying for the urban spurge in July 2005. Approximately 20,000 acres were surveyed using ATV's, 4 wheeled drive vehicles and by foot travel. Infestation locations were mapped using GPS. Specimens were collected and sent to Montana State University and University of Montana in various vegetative stages.

The located infestations were limited and did not appear to be spreading at an alarming rate. The plants also appeared to be affected by biocontrol specific to leafy spurge. *Aphona* species and *Oberea* species were noted on various patches of urban spurge.

Reported Status of
URBAN SPURGE , EUPHORBIA AGRARIA
in US and Puerto Rico

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Saltcedar Survey Report

Valley County

Submitted by: Rick Stellflug, Valley County Weed District

Our survey for 2005 covered an area north of the CMR from the Hill Ranch to the Phillips County line. The Willow Creek and Ridge Roads were the north boundary lines. Fortunately we did not find any saltcedar.

We also searched the milk River from Bjornberg Bridge to Vandalia Dam, with the Valley County Search and Rescue riverboat. Volunteers from Search and Rescue and Beth Klempel from BLM helped with this survey. We inventoried 35 miles of riverbank and didn't find and saltcedar. The search was prompted because of several trees that were found along the Milk River in Blaine County this summer.

In 2004, a multi-agency management team met to form a saltcedar WMA (Weed Management Area). The Fort Peck Saltcedar Management Team consists of 12 members, representing the following: Valley County, McCone County, Garfield County, Phillips County, Fergus County Petroleum County, Jim Thompson, project leader; Beth Klempel, BLM; Patricia Gilbert, Corp of Engineers; Hoyt Richards, DNRC; Steve Henry, USFW; and two private landowners, one from the north side and one from the south side of the lake.

The team members compiled information of known saltcedar infestations along Fort Peck Reservoir. The information was accumulated and a final map was produced. The map shows where the saltcedar is present on a section basis, the priority and if it was treated. This summer the USFW had a "strike team" working on their areas of Devil's and Hell Creek. The team started at the head of the drainage and worked their way to full pool level.

In conclusion we are achieving our survey goals in most of the counties around Fort Peck Lake. Jim Thompson has been very instrumental in getting all the entities together and compiling survey information. We all know that weeds know no boundaries or landownership therefore; we are all in this battle together. We all appreciate the funding from CAPS and feel that it has helped a very worthwhile ongoing project.

Petroleum County

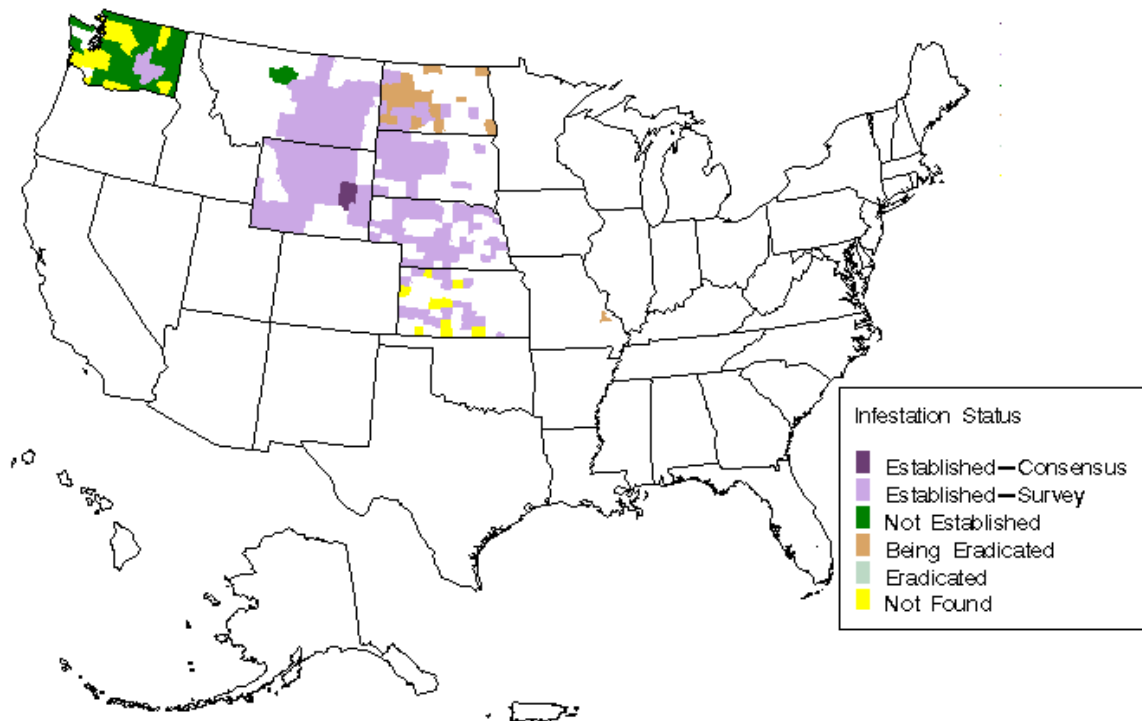
Submitted by: Clint Clark, Petroleum County Weed District

Our survey area covered the Musselshell River from its mouth to the town of Roundup, MT. There is an existing Saltcedar bio release site in this survey area. Three other sites have

concentrations of Saltcedar that might be called patches, whereas the rest of the survey area, outside Petroleum Co. are individual plants or small strips. The Saltcedar in the survey area in Petroleum Co., except CMR lands, will be chemically treated this summer. We hope the biocontrol release upstream will reduce the seed spread, re-infestation and provide long-term control in the treated area. Site 3 contains approximately 30 acres of Saltcedar in the 70 acre site, this site is within the CMR and is being dealt with by them. The probable acreage of Saltcedar in the survey area is 75.

**Reported Status of
SALT CEDAR , TAMARIX RAMOSISSIMA
in US and Puerto Rico**

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Whitetop Mapping Project Report

Southwest Montana Multi-County

Submitted by: Butte Silver Bow Weed Control Department

Beaverhead and Silver-Bow Counties: Hired aircraft to survey and GPS infestations of whitetop within the counties. Selective ground surveys and all the data collected has been entered into a database. The Butte Silver Bow GIS department verified the data obtained and the data has been forwarded to the Montana Department of Agriculture GPS office (Patrick Dougherty). Butte Silver Bow GIS Department is currently refining the data to a PDF file for distribution to all entities involved.

Jefferson and Broadwater Counties were unable to perform the projects due to weather conditions within their respective counties.

Pondera Creek

Submitted by: Steve Becker, Pondera County Weed Coordinator and Jim Ghekiere, Liberty County Weed Coordinator

The purpose of this project was to inventory infestations of Whitetop (hoary cress), *Cararia draba*, on Pondera Creek throughout its entire course in Pondera and Liberty Counties. The project is just one of several whitetop inventories being conducted across Montana for this project. The data collected will be submitted to APHIS and will be used to prepare for the introduction of biological weed controls for whitetop that may become available soon. A complete inventory of infested areas in the state was needed, first, to determine the severity of the whitetop problem in the state, and also for identifying for potential release sites for the biocontrol agents as they become available.

An additional benefit of this project for the County Weed Districts was to compile a complete GIS database inventory of the whitetop infestations for each county. This data will benefit the weed management efforts of the counties in controlling and eradicating these plants, and in identifying and protecting areas, which are threatened, but not infested at this time.

The Pondera and Liberty County Weed Districts began mapping the project area with Garmin GPS units in early May. At this time the whitetop plants were in the early rosette stage and were beginning to bolt. At this time we mapped the heaviest known infestations, which we knew would be easiest to find. By May 23rd, the plants had flowered and were easily distinguishable throughout the area for locating them and mapping. Mapping continued into June, when the flowers began to lose their color and the plants began to set seed. By this time even the smallest

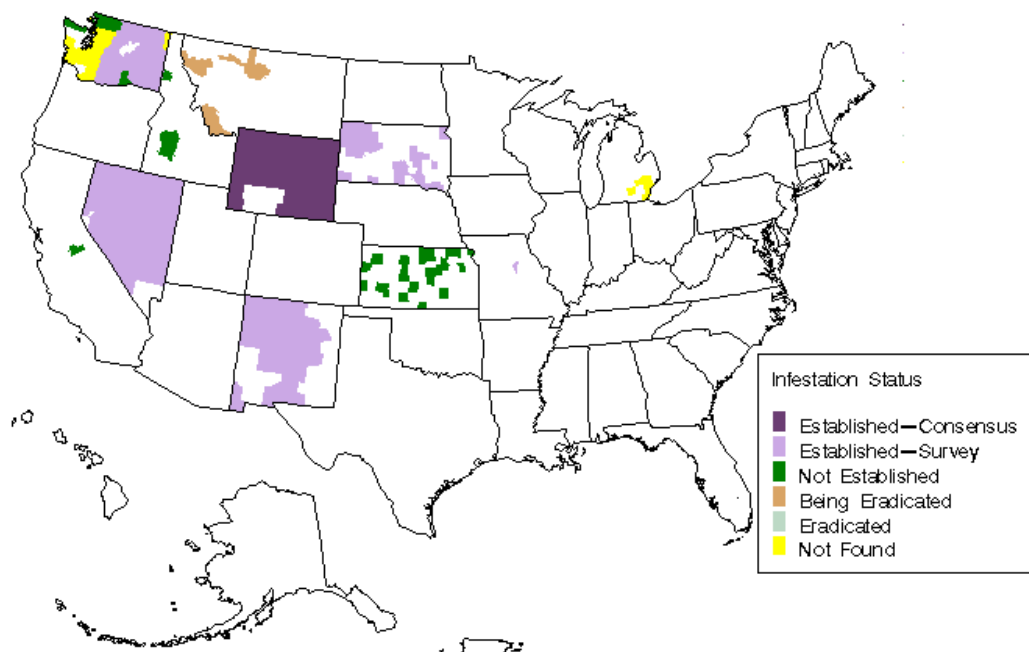
patches of plants were easy to distinguish, so it was relatively easy to collect accurate data for these locations. The final data was collected in late July.

Approximately 80 miles of the riparian zone along the creek were mapped and inventoried. A buffer zone of ¼ mile on each side of the creek was selected for the project boundary and inventoried area. We found the heaviest infestations of whitetop are located on upper Pondera Creek, beginning near the town of Conrad, and down the creek, for approximately 25 miles. In this stretch of the creek, the whitetop is extremely dense on both sides of the creek. We found very few uninfested areas. As you move downstream, the density of plants decreases, and the large, several-hundred acre infestations we found, decreased in size to 1 to 3 acre patches. These patches became more intermittent as we progressed downstream into the small section of creek in Chouteau County, and into Liberty County.

A total of 3764 acres of whitetop were mapped and inventoried along Pondera creek. There were many acres of uninfested ground, areas that became larger and more prominent as we moved downstream.

It is our determination, that the upper Pondera Creek, with its extremely high whitetop plant density, would be an ideal location for any introduction and research work on biological controls for whitetop.

Reported Status of
WHITETOP (HEART-PODDED HORYC.) , CARDARIA DRABA (HORYCRESS)
in US and Puerto Rico
Data retrieved from National Agricultural Pest Information System on 03/16/2006



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